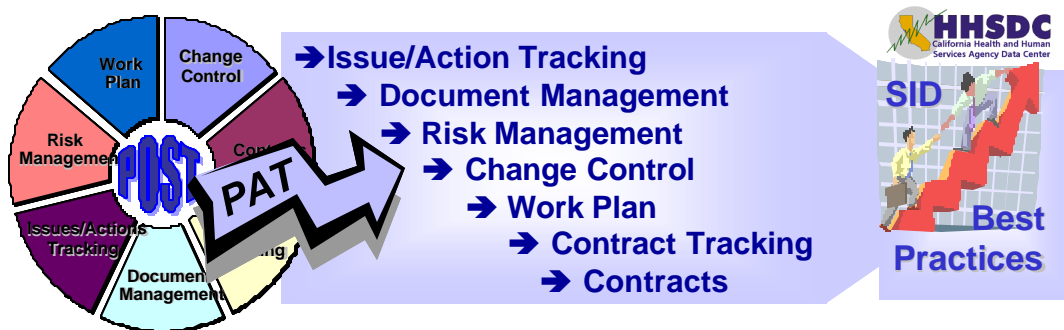


# Findings Report For The

## Project Office Support Tool (POST) Phase 2 Issue Tracking Module



**April 15, 2002**

Prepared for: HHSDC Systems Integration Division

Prepared by: THE POST Phase 2  
Issue Tracking  
Process Action Team (PAT)

## 1 Introduction

The Systems Integration Division (SID) Management Steering Council (MSC) has enacted several Process Action Teams (PATs), which are made up of a cross-section of duty experts throughout SID. These PATs meet for a defined period of time for the purpose of improving the processes and practices within SID and enabling the organization toward an on-going journey of using common standards and industry best practices. The PATs are the primary vehicle for providing the contents that make up the SID Best Practice Website.

This report is one of an on-going series of reports that summarize the results of the POST Phase 2 - Prototype phase. During this phase, the team evaluated and installed the Management Tracking System (MTS) II tool at the CMIPS and EBT projects in the Natomas Office. This report compares the tool to the requirements from Phase 1 and includes the lessons learned comments.

## 2 SID Standard for Issue Tracking (Independent of a Tool)

The following items are taken from the POST Phase 1 findings report and describe the terms, process and features that serve as the requirements for an issue tracking tool.

### 2.1 Terms and Definitions

|   |  |
|---|--|
| Issue/Action Item Tracking/ Management- | A formal process and techniques employed by a project to ensure the oversight and management of issues and action items.   |
| Issues-                                 | <p>A statement of concern or need that is formally recorded and tracked via an issues/action management system, or activities/concerns that:</p> <ul style="list-style-type: none"> <li>• Are known ahead of time, or are in the project workplan, but whose resolution is in question or lacking agreement among stakeholders,</li> <li>• Are highly visible or involve external stakeholders such as requests from control agencies,</li> <li>• Have critical deadlines or timeframes which cannot be missed,</li> <li>• Result in an important decision or resolution whose rationale and activities must be captured for historical reasons, or</li> <li>• Any item that may impede project progress.</li> </ul> |

Typical Issues include:

- Team member, stakeholder and customer concerns and questions which cannot or have not been answered (i.e., escalated questions)
- Requests for information or clarification from the control agencies
- Escalation of overdue decisions
- Escalation of topics requiring executive management decision (due to lack of agreement among stakeholders, due to contractual implications, or due to scope/cost/schedule impacts)
- Analysis of concerns or investigation of alternative approaches (such as to respond to aspects of new or impending legislation), i.e., What-If Analyses
- Decisions which affect the project moving forward

Things which are NOT issues:

- General questions (if no adequate answer is received, then it may become an issue)
- Items not related to the project (i.e., Sponsor or HHSDC internal items)
- Items in the project workplan (unless they need to be escalated)
- Items that are part of a person's normal work duties
- Risks which may threaten the project (usually tracked separately in a risk tracking tool)

|              |   |
|--------------|---|
| Action item- | An issue that is formally assigned resources (usually one person) to work towards eventual resolution. An issue may be broken into several action items, if appropriate.  |
| Task-        | An extension of an action item, including multiple activities (usually assigned to multiple people) whereby the sum of the activities equals the action (i.e., sub-action item). Not necessarily related to Outlook's Task feature. (Outlook's Task feature can be used for informally reminding a person of a task (from an action item), but the final resolution must be placed in the Issue Tracking System.) |

## 2.2 Features of an Issue Tracking System

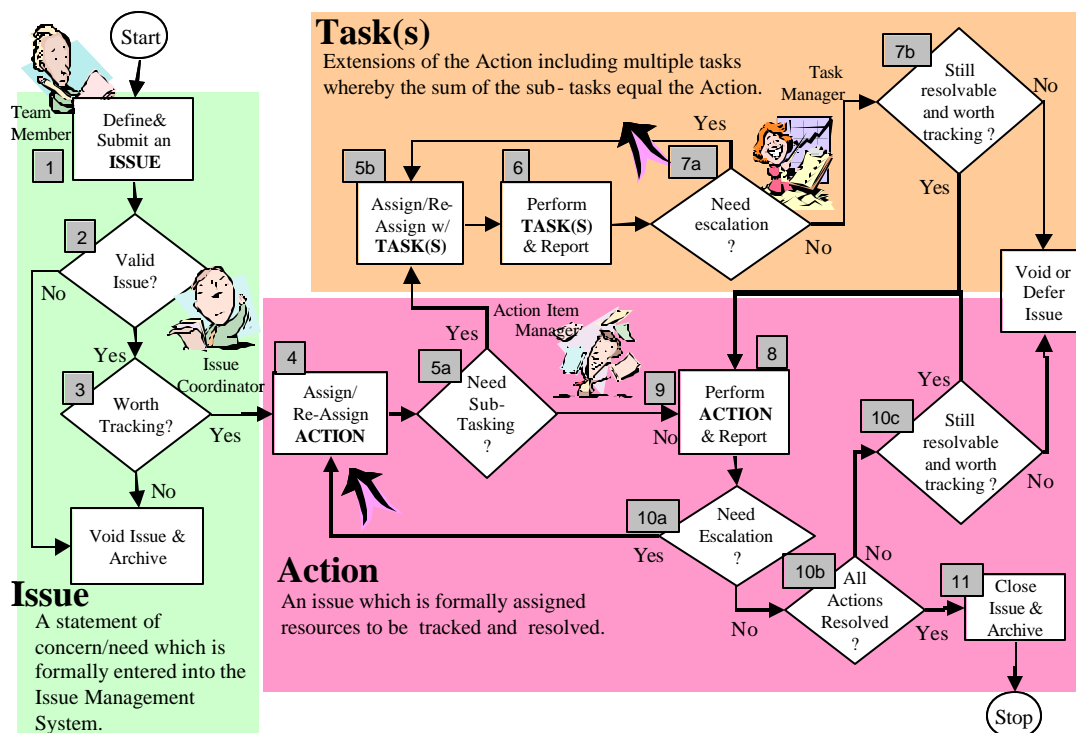
The PAT has identified features that should be considered and addressed for all SID projects when planning for and defining an Issue Tracking System for their project.

|                      |  |
|----------------------|--|
| Formal Recording     | The Issue Tracking System must have a mechanism for formally recognizing an issue/action and recording it for disposition and tracking.  |
| Validation of Issues | Not all issues become actions worthy of formally recording and expending energy to track. Therefore, the Issue Tracking System must have a mechanism for review and validation of issues for either closure or action.   |
| Prioritizing         | The Issue Tracking System must have a mechanism for prioritizing issues/action items. Priority levels should be selected in a manner that maximizes the ability to manage issues/action items to closure.  |
| Security/Permissions | The Issue Tracking System must be capable of establishing permissions and maintaining security on a need-to-know basis. This is particularly important when dealing with procurement issues where compromising of information could lead to legal consequences.                  |
| Custom Categories    | The Issue Tracking System must be flexible enough to allow for project-specific customization. While there are many aspects of issues/action items that are common to all projects, there are also unique needs for categorizing issues/action items by each individual project. |
| Custom Sorts/Filters | The Issue Tracking System must be flexible enough to provide many unique sorting and filtering capabilities. Both features are essential.  |
| Custom Reporting     | The Issue Tracking System must provide the ability to print reports. The exact type and style can be standardized to a great extent. However, the more flexible the reporting feature, the better.   |
| Escalation of Issues | The Issue Tracking System must accommodate the ability to escalate issues/action items that warrant high management attention.   |
| Search/Find          | The Issue Tracking System must provide the ability to search and find issues/action items depending on keywords or phrases in the data fields. This  |

|                                   |   |
|-----------------------------------|---|
| Cross-Referencing                 | is essential in recovering historical information or issues that are related.<br>The Issue Tracking System must have the ability to cross-reference issues with other project-related activities. Examples of this include cross-referencing with an RFP paragraph/contract number, a Work Breakdown Structure number, a change request, an incident/application fix report, or to a specific document. The system must also allow for cross-referencing within the Issue Tracking System (i.e., reference to other related issues/action items). |
| Running History Log and Audit Log | The Issue Tracking System must track incremental progress notes documented against an issues/action item. The system should also track who modified the issue record, when the modifications took place, and what changes were made.  |
| Final Resolution Log              | The Issue Tracking System must have a place where final resolution and closure of an issue/action item is accessible. Unlike progress notes (which will change over time), the final resolution is the action/decisions that closes the issues/action items and states the agreements made between parties, etc.  |
| Archiving and Purging             | The Issue Tracking System must have the ability to purge data (e.g., procurement data, contractor proprietary notes) or items which are no longer needed for historical purposes, and also archive issue/action item information for future reference and lessons learned.  |
| Overdue Notifications             | The Issue Tracking System must have a mechanism for proactively notifying users of an overdue issue/action item (or an issue coming due). This is referred to as "push" technology because it occurs without prompting by the user.   |

**Table 1. Features of an Issue Tracking System**

The figure below defines the PAT-recommended generic Issue Tracking process.



### 3 Using MTS II For Performing Issue Tracking

#### 3.1 Description of MTS II

The Management Tracking System II (MTS II) is an in-house developed application that was initially created for the Statewide Automated Child Support System (SACSS) Project. The original application (MTS) was written to log and track action items for historical purposes in response to audits conducted as part of the SACSS project. It was subsequently installed at the Department of Child Support Services (DCSS). The application was enhanced and modified for the HHSDC Systems Integration Division (SID) as part of the standardization of Project Office Support Tools (POST) effort within the division. The application was renamed to "MTS II" in order to differentiate the new and improved application from the original.

MTS II consists of five components or subsystems<sup>1</sup>, including an issue tracking subsystem. There is some (but not complete) integration between the subsystems. A web interface also exists to allow users access to the application through the intranet (the screens are currently being redesigned).

#### 3.2 Comparison of MTS II to the Required Features

For each feature identified in Section 2, there is a corresponding description of how MTS II does (or does not) accommodate the feature and a PAT rating of acceptability (↑=Good, →=Marginal, ↓=Unacceptable).

| Feature                 | Comment   | Rating  |
|-------------------------|---|---|
| 1. Formal Recording     | The system allows for recording of issues in a database.  | ↑   |
| 2. Validation of Issues | Validation occurs through a manual process. Issues can be marked as closed or rejected.   | → - Manual process. User required to indicate reason for rejection/closure. |
| 3. Prioritizing         | The system allows for prioritization. The three priorities are: Critical, High and Normal   | ↑   |
| 4. Security/Permissions | The system uses a combination of SQL database logins and MS Access-established security roles.  | ↑ - Maintained by the System Administrator/DBA                              |
| 5. Custom Categories    | The System Administrator/Issue Coordinator may customize three category fields.   | ↑ - Performed through a separate application                                |
| 6. Custom Sorts/Filters | The Filter capability exists for both display (views) and printing. Any field can be filtered.  | → - No Sorting ability currently  |
| 7. Custom Reporting     | Some custom reports can be created using the Filter capability. Other reports can be created by the System Administrator, if needed.  | ↑   |
| 8. Escalation of Issues | Escalation occurs through a semi-manual process. Escalation can be recorded in the Events log manually at any time. Overdue items are automatically escalated to the assignee's manager (if enabled). | ↑ - Semi-manual process.  |
| 9. Search / Find        | The system has a "Go To" option, Next/Previous  | ↑   |

<sup>1</sup> The other subsystems are personnel tracking, deliverable tracking, project information and county tracking. Other POST efforts will evaluate these subsystems, as appropriate.

| Feature                               | Comment  | Rating  |
|---------------------------------------|--|---|
|                                       | buttons, and the Filter capability.  |   |
| 10. Cross-Referencing                 | The system supports a one-to-many (parent to children) cross-reference to other issues/action items. The system also supports manual capture of multiple iManage document numbers. | ↑ - Cross-reference for issues/action items and documents |
| 11. Running History Log and Audit Log | The system supports a manual history log and the SQL DB has an automated audit log that can be accessed by the System Administrator/DBA.   | ↑   |
| 12. Final Resolution Log              | The system requires a resolution be entered before the item can be closed.   | ↑   |
| 13. Purging and Archiving             | Individual items can be marked for archive; the actual archiving must be done by the System Administrator. Only the System Administrator can purge/delete items.                   | ↑   |
| 14. Overdue Notification              | The system supports several customizable notifications (coming due, overdue, escalation to managers).  | ↑   |

**TABLE 1. APPLYING MTS II TO ISSUE TRACKING**

## 4 PAT Conclusions

The PAT feels that the tool is an adequate implementation of issue/action item tracking. Both CMIPS and EBT have been using the tool for at least two months and it has been mostly stable and reliable. Other projects are encouraged to consider MTS II if they do not currently have a tool for issue tracking.

The primary concern regarding MTS II is the amount of IT support required to maintain and operate it. Currently one programmer is dedicated nearly full-time to supporting it. The IT Support group is currently understaffed and there is concern about the resource drain that may occur if the tool is rolled-out to all projects. Stronger configuration management and change control procedures will need to be implemented if other projects start using it.

The minutes from the lessons learned sessions are included in Appendix A. Appendix B contains a workplan that describes the key activities to be performed to implement MTS II.

## 5 Implementation Notes

Projects that are interested in implementing MTS II should examine the costs, infrastructure needs, and resource needs below, the sample workplan for implementation in Appendix B, and the lessons learned from Appendix A. The POST group is available to assist with the implementation and training, but some project resources will be required for the installation and ongoing maintenance. The MTS II User Guide and Administrator's Guide (available on the BP website) provide additional information on roles and setting up the tool for use.

### 5.1.1 Costs and Licensing

Because the tool has been developed in-house, there are no licensing costs associated with MTS II. However, projects may be asked to contribute towards the cost of IT staff that maintain the application.

The following table shows estimated pricing information for the other associated costs that may be necessary in order to implement it. It is very important to note that existing hardware and software may be used, making some of the costs inapplicable to a specific circumstance. This information is intended to be used as a planning guide only; a hardware and software assessment is necessary to determine each site's specific needs.

#### Startup or One-Time Costs

| <b>Hardware</b>  | <b>Est. Cost <sup>1</sup></b> |                 |
|--|-------------------------------|-----------------|
| Dual 1GHz processor fileserver, 2GB RAM raid5<br>(5x18), 3 yr service <sup>2</sup>               | \$7,000.00                    | \$ 7,000.00     |
| <b>Estimated Hardware Costs (1 server) \$</b>  |                               | <b>7,000.00</b> |
| <b>Software</b>  |                               |                 |
| MS Office 2000 suite   | *                             | *               |
| MS Windows 2000 SP2  | *                             | *               |
| MS Windows Server 2000   | \$ 450.00                     | \$ 450.00       |
| MS SQL 2000 Standard Edition, unlimited access<br>(no CALs required), per processor <sup>3</sup> | \$2,630.00                    | \$ 2,630.00     |
| <b>Estimated Software Startup Costs (10 users) \$</b>  |                               | <b>3,080.00</b> |

### Annual Maintenance Costs

| Software   | 10 user example |               |
|--|-----------------|---------------|
| MS Windows 2000  | *               | *             |
| MS Office 2000 suite   | *               | *             |
| MS Windows Server 2000   | \$ 125.00       | \$ 125.00     |
| MS SQL 2000 Standard Edition, unlimited access<br>(no CALs required), per processor <sup>3</sup> | \$ 850.00       | \$ 850.00     |
| <b>Estimated Annual Software Maintenance (10 users) \$</b>                                       |                 | <b>975.00</b> |

#### Notes:

\* Standard client desktop operating system software costs are not included because these costs would be incurred regardless of MTS II

<sup>1</sup> Estimated prices do not include tax or shipping

<sup>2</sup> Server specs will vary by needs and is for informational purposes only

<sup>3</sup> SQL server software programs are licensed per processor (based on the number of processors on the server on which it is installed) Technically, if you use a dual processor, you will need 2 of these licenses.

#### 5.1.2 Required Infrastructure

The minimum infrastructure necessary to implement MTS II consists of 1 server running Windows 2000 Server and MS SQL 2000. **Each desktop needs to be running Windows 2000 operating system and the MS Office 2000 suite.** More than 1 server may be necessary depending upon workload and performance issues. A technical assessment will provide the recommended infrastructure to be in place in order to deploy MTS II at the office site.

##### Client Configuration

Windows 2000 SP2  
Access 2000  
Outlook 2000 w/ CDO Objects  
Internet Explorer 5.0 or above

##### Server Configuration

Windows 2000 SP2  
SQL Server 2000  
IIS 5.0

#### 5.1.3 Required Resources

The project must assign a project Issue Coordinator. It is recommended that the Coordinator serve as the first level contact for problems and training for new project staff.



A project System Administrator is also required to assist with installation and technical ownership of the database. The administrator should work with the POST group throughout the installation and implementation to ensure sufficient knowledge transfer.

The project should ensure that the administrative staff and all managers are available to participate in the training sessions and lessons learned sessions.

The POST group will lead the installation and implementation, conduct status meetings, and provide initial training.

#### **5.1.4 Documentation and Training**

The MTS II User Guide and an Administrator's Guide are available, along with Guidelines for Issue Tracking/Issue Process Document (developed with CDSS) from the POST/Issues area of the Best Practices web site ([http://bpweb/New\\_web/POST%20Enterprise/Issue%20Management/POST%20issue\\_mgmt.htm](http://bpweb/New_web/POST%20Enterprise/Issue%20Management/POST%20issue_mgmt.htm)).

Training materials will be developed and the POST group is available to provide or assist with initial training. It is recommended that all staff attend the basic training. Follow-up training should be provided approximately 30 days later to answer questions and address any discrepancies that the Issue Coordinator is finding in the system.

## **Appendix A: Lessons Learned from MTS II**

## POST PHASE 2 – ISSUE TRACKING LESSONS LEARNED

March 1, 2002

March 6, 2002

May 1, 2002

### Participants:

|                   |     |             |     |
|-------------------|-----|-------------|-----|
| Sylvia Beckwith   | EBT | Laura Okawa | SID |
| Melinda Mellinger | EBT | Kathy Saito | SID |
| Robyn Sasaki      | EBT |             |     |

March 6<sup>th</sup> Updates

|              |       |
|--------------|-------|
| Kevin Wardle | CMIPS |
|--------------|-------|

May 1<sup>st</sup> Updates

|             |       |              |       |
|-------------|-------|--------------|-------|
| Sarah d'Eon | CMIPS | Kevin Wardle | CMIPS |
| Mary Watson | CMIPS |              |       |

### Context:

The POST Phase 2 (Proof-of-Concept) Issue Tracking PAT has been working to prototype the MTSII system with the CMIPS, and EBT projects. MTS originated with the child support project. It was rewritten for the EBT project and renamed to MTSII. EBT has been using various versions of MTSII for at least 6 months. There are still some ongoing changes and fixes to the current version. CMIPS has just migrated their issues to MTSII and is the process of piloting it for their use.

There are several components of MTSII, as listed in the bullets below.

- Personnel
- Issue/Action Item Tracking
- Statement of Work (SOW)/Deliverables Tracking
- County Tracking (such as county contacts, business and system information)

The Personnel subsystem is foundational to the other components. User names, e-mail addresses and managers (at a minimum) must be entered prior to using the other areas of the system. There are also several customizable pulldown lists which must be populated prior to use. These lists are usually populated and maintained by a Superuser or the System Administrator.

This session was an opportunity to capture lessons learned from the EBT group to assist CMIPS with their pilot. The comments cover all the areas of the system, but the comments on the Issue system are the primary focus of this document. These lessons also will be used by the

CWS/CMS group as they plan their installation of MTSII. A subsequent lessons learned session will be performed after CMIPS has had 60 days to pilot MTSII.

## **Lessons Learned:**

### General

- There are still some bugs in the system. The errors generally lockup the Access application and you have to manually terminate it. Thus you lose any unsaved data.
- When using the Copy (of a record) feature, it is not always clear that the copy occurred and you are in the new record. Would help to have a more visual indicator of whether you are in the original or in the copy.
- There is no help feature available. Training to date has been one-on-one, hands-on training. A user manual is in work.
- Beware of running large reports as it will tie up your system.
- There is no integration with Outlook. Thus the personnel information may not always be up-to-date and must be manually replicated in MTSII. Also, the manual e-mail buttons in MTSII do not work currently, although the system generated notifications do.
- Project staff do not use it often and so they do not always remember to check it. It is not usually open on their desktops.
- Annual audits are recommended to ensure completeness and to identify items for archiving.
- Deletes are not available to the general user. Items can be marked as inactive by the System Administrator.
- There is a lot of work involved to pre-populate the areas, particularly for the SOW/Deliverables area. Recommend starting this population effort as soon as possible.
- You can use Copy/Paste (Ctrl-C/Ctrl-V) between fields.
- You cannot attach files to an item.
- The screens are not always refreshed automatically. You may need to manually refresh, or leave the record and come back to it to see your changes.
- Push notifications are very helpful to remind staff and contractors of upcoming due dates.
- Most felt it was intuitive to use.
- Push notifications have to be run by an IT Support person due to security on the Exchange Server.
- There are some extraneous confirmations and navigation of the screens is not always optimal (sometimes thrown back to the main menu screen instead of the previously accessed screen).
- Many items in the tool are EBT-specific currently. Not all of these customizations are appropriate for other projects. This may be a problem in the future.
- Related to the previous bullet: CMIPS linked a separate Access DB to MTS in order to accomplish the reports they wished. This could be overcome by making the reports table-drive, but it will take some re-coding and restructuring.

### Issue/Action Item Tracking

- Issues are not linked to the SOW/Deliverables Tracking module.
- EBT primarily uses the system for action items; there are not many issues.
- Many people overlook the Issue checkbox.
- The iManage field is just a manual free text field. There is no integration with the iManage application. You can type in as many document numbers as you wish. The field is not included in the reports currently.

### SOW/Deliverable Tracking

- Be sure to educate everyone on what the Due Date field is used for: is it for the contractor delivery due date, or the project review due date.
- It would be helpful to have a feature that copied the iManage field contents to the Status/Events screen areas to avoid re-typing.
- Recommend giving recurring deliverables a higher sequence number (900 or 9000) to ensure they are always grouped at the bottom of the list. This helps with readability and also makes sure the items (such as status reports) are grouped together. You can use 1.x, 900.x, etc. numbers, if needed.

### Personnel

- Bug which is in work: Inactive personnel are not included in the Filter/Sort. You must re-activate them if you want them included.

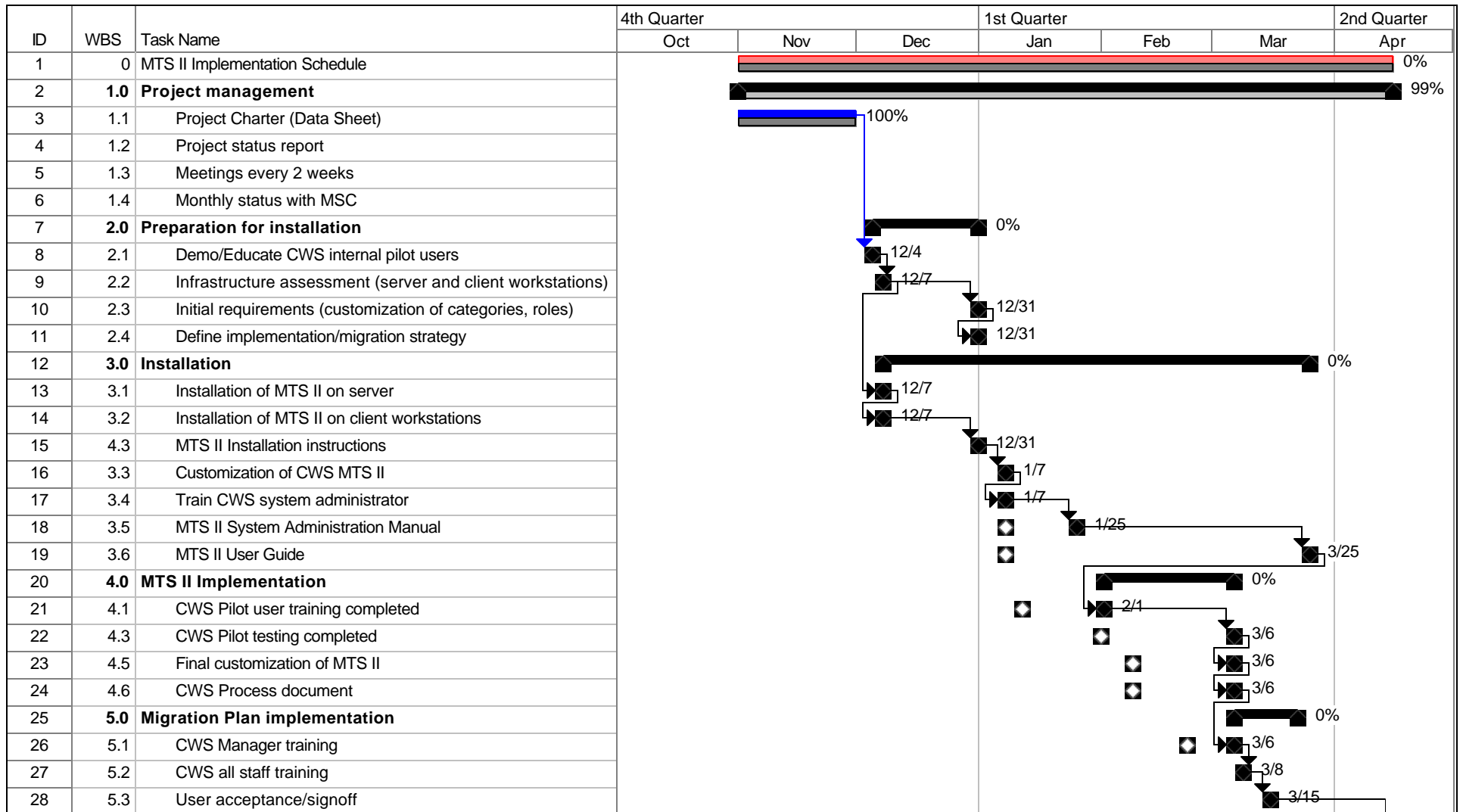
### Rollout to Other Sites

- It has been very helpful to have James on-site to answer questions and problems when they arise. This may be a problem as more projects start using the tool, as they will not have access to the same level of support.
- The tool must be installed on every user's workstation that needs access to it. This will require a lot of administrator time during upgrades.

### Migration to MTSII from another Access Tool



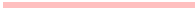







- The underlying data structures are fairly straightforward, so migration was not that difficult. Of particular note:
  - MTS auto-numbers items. If you are porting things from an existing source and wish to keep the numbers as is, there will be some problems and workarounds required.
  - The "Updated By" field in MTS is not the User ID, but the "Name". Thus it cannot be transferred easily. You may have to default it to one particular person.
  - The "Category" and "Subcategory" fields do not readily translate. Often they were left blank to be fixed at a later date.

## **Appendix B: Sample Workplan for Implementation**



|   |                   |  |                    |  |                    |  |
|---|-------------------|--|--------------------|--|--------------------|--|
| Project: CWS MTS II Phase 3<br>Date: Tue 7/9/02 | Critical          |  | Baseline           |  | Project Summary    |  |
|   | Critical Split    |  | Baseline Split     |  | External Tasks     |  |
|   | Critical Progress |  | Baseline Milestone |  | External Milestone |  |
|   | Task              |  | Milestone          |  | Deadline           |  |
|   | Split             |  | Summary Progress   |  |                    |  |
|   | Task Progress     |  | Summary            |  |                    |  |

| ID | WBS | Task Name  | 4th Quarter |     |     | 1st Quarter |     |        | 2nd Quarter |
|----|-----|--|-------------|-----|-----|-------------|-----|--------|-------------|
|    |     |  | Oct         | Nov | Dec | Jan         | Feb | Mar    | Apr         |
| 29 | 5.4 | CDSS Pilot user training completed                     |             |     |     | ◆           |     | ■ 3/22 | ↓ 4/15      |
| 30 | 5.6 | CDSS Pilot user testing completed                      |             |     |     |             | ◆   | ■ 3/22 |             |
| 31 | 6.0 | Maintenance and Operations                             |             |     |     |             |     |        |             |
| 32 | 7.1 | Final CWS Technical Support Process/guidelines updated |             |     |     |             |     | ■ 3/15 |             |
| 33 | 7.0 | Project Close-out                                      |             |     |     |             |     |        |             |
| 34 | 8.1 | Lessons learned  |             |     |     |             |     |        | ■ 4/15      |

|   |                   |   |                    |   |                    |   |
|---|-------------------|---|--------------------|---|--------------------|---|
| Project: CWS MTS II Phase 3<br>Date: Tue 7/9/02 | Critical          |  | Baseline           |  | Project Summary    |  |
|   | Critical Split    |  | Baseline Split     |  | External Tasks     |  |
|   | Critical Progress |  | Baseline Milestone | ◆   | External Milestone | ■   |
|   | Task              |  | Milestone          | ■   | Deadline           | ◆   |
|   | Split             |  | Summary Progress   |  |                    |   |
|   | Task Progress     |  | Summary            |  |                    |   |



